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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/859,512	05/18/2001	. Kiminori Tamai	208808US2	4273
22850	7590 11/19/2003		EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PIZIALI, A	NDREW T
			ART UNIT	PAPER NUMBER
	,		1775	

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
	09/859,512	TAMAI ET AL.			
Office Action Summary	Examiner	Art Unit			
	Andrew T Piziali	1775			
The MAILING DATE of this communication a Period for Reply	appears on the cover sheet w	ith the correspondence address			
A SHORTENED STATUTORY PERIOD FOR REF THE MAILING DATE OF THIS COMMUNICATION  - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a r  - If NO period for reply is specified above, the maximum statutory peri  - Failure to reply within the set or extended period for reply will, by star  - Any reply received by the Office later than three months after the ma earmed patent term adjustment. See 37 CFR 1.704(b).  Status	N. 1.136(a). In no event, however, may a reply within the statutory minimum of thi iod will apply and will expire SIX (6) MO tute, cause the application to become A	reply be timely filed ty (30) days will be considered timely. NTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).			
1) Responsive to communication(s) filed on 1	1 September 2003 .				
2a) This action is <b>FINAL</b> . 2b) ⊠	This action is non-final.				
3) Since this application is in condition for allo closed in accordance with the practice und Disposition of Claims	•	· · · · · · · · · · · · · · · · · · ·			
4)⊠ Claim(s) <u>1-3,5-10 and 12-16</u> is/are pending	in the application.				
4a) Of the above claim(s) 6,7 and 14-16 is/a	re withdrawn from considera	ation.			
5) Claim(s) is/are allowed.					
6)⊠ Claim(s) <u>1-3,5,8-10,12 and 13</u> is/are rejecte	ed.				
7) Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and	d/or election requirement.				
Application Papers					
9)⊠ The specification is objected to by the Exami	iner.				
10)☐ The drawing(s) filed on is/are: a)☐ ac	•				
Applicant may not request that any objection to	•	* *			
11) The proposed drawing correction filed on		disapproved by the Examiner.			
If approved, corrected drawings are required in	• •				
12) The oath or declaration is objected to by the	Examiner.				
Priority under 35 U.S.C. §§ 119 and 120					
13)⊠ Acknowledgment is made of a claim for fore	eign priority under 35 U.S.C.	§ 119(a)-(d) or (f).			
a)⊠ All b)□ Some * c)□ None of:					
1. Certified copies of the priority documents have been received.					
2. Certified copies of the priority documents have been received in Application No					
<ul> <li>3. Copies of the certified copies of the p application from the International</li> <li>* See the attached detailed Office action for a l</li> </ul>	Bureau (PCT Rule 17.2(a)).	_			
14) ☐ Acknowledgment is made of a claim for dome	estic priority under 35 U.S.C	§ 119(e) (to a provisional application).			
<ul> <li>a)  The translation of the foreign language</li> <li>15)  Acknowledgment is made of a claim for dome</li> </ul>	•				
Attachment(s)					
<ol> <li>Notice of References Cited (PTO-892)</li> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>Information Disclosure Statement(s) (PTO-1449) Paper No(s)</li> </ol>	5) Notice of	Summary (PTO-413) Paper No(s) Informal Patent Application (PTO-152)			

Application/Control Number: 09/859,512 Page 2

Art Unit: 1775

#### **DETAILED ACTION**

### Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claims refer to surface resistivity values, but the specification fails to mention surface resistivity values.

## Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-3, 5, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,662,962 to Kawata et al. (hereinafter referred to as Kawata) in view of USPN 6,398,900 to Hieda et al. (hereinafter referred to as Hieda) in view of USPN 6,316,110 to Anzaki et al. (hereinafter referred to as Anzaki) in view of USPN 6,379,788 to Choi et al. (hereinafter referred to as Choi).

Regarding claims 1-3, 5, 8-10 and 12, Kawata discloses a transparent conductive multi-layer structure which comprises a substrate overlaid with a conductive layer containing fine conductive particles ( see entire document including column 2, lines 58-63, column 3, lines 51-55, and column 5, lines 11-23). Kawata discloses that the surface resistivity may range from 630 to  $1700 \Omega/\Box$  and the visible light transmittance may range from 94.8 to 96 (columns 13 and 14, Tables 1 and 3).

Art Unit: 1775

Kawata does not disclose placing the structure on a substrate, but Hieda discloses that it is known to attach an electromagnetic wave shield structure to the front surface of a plasma display panel to shield electromagnetic waves and near-infrared rays generated from a plasma display panel (see entire document including column 1, lines 18-31, column 4, lines 45-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the electromagnetic wave shield of Kawata to a plasma display panel, as disclosed by Hieda, because the electromagnetic waves and near-infrared rays generated from the plasma display panel would be shielded.

Kawata does not disclose the use of an anchor layer and a hard coating layer, but Anzaki discloses that it is known to coat an electromagnetic wave shield with an adhesive layer and a hard coating layer to protect the shield from air and to prevent the glass from shattering when broken (see entire document including column 6, lines 36-45 and column 7, lines 39-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an anchoring adhesive layer and a hard coating layer to the structure of Kawata, as disclosed by Anzaki, because the layers would protect the shield from air and prevent the glass from shattering when broken.

Anzaki does not specifically mention using a UV curable hard coating layer, but does disclose that the hard coating layer may operate as an antireflective layer (column 7, lines 39-47). Choi discloses that it is known to coat an electromagnetic wave shield with an antireflective hard coating layer comprising a UV-curable polymeric layer (see entire document including column 1, lines 13-23, column 3, lines 7-17, and column 5, lines 50-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a UV-

Application/Control Number: 09/859,512

curable polymeric antireflective layer for the hard coat layer of Anzaki, as taught by Choi, because such a layer provides the desired antireflective characteristics and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Regarding claims 2 and 9, Kawata discloses that the particles are ITO (column 5, lines 11-23).

Regarding claims 3 and 10, Kawata discloses that the substrate may be glass (column 2, lines 58-63).

Regarding claims 5 and 12, Kawata discloses that the structure has a haze ranging from 0 to 1% (column 5, lines 5-10 and columns13 and 14, Tables 1 and 3).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata in view of Hieda in view Anzaki in view of Choi as applied to claims 1-3, 5, 8-10 and 12 above, and further in view of USPN 5,886,819 to Murata et al. (hereinafter referred to as Murata).

Kawata does not mention roughening the surface of the article to increase the haze value, but Murata discloses that it is known to roughen the surface of an article to increase the haze value (column 1, lines 6-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to roughen the surface of the article of Kawata to acquire any desired haze value, because some applications desire a higher haze value.

5. Claims 1-3, 5, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,662,962 to Kawata in view of USPN 6,398,900 to Hieda in view of USPN 6,316,110 to Anzaki in view of USPN 6,448,492 to Okada et al. (hereinafter referred to as Okada).

Art Unit: 1775

Regarding claims 1-3, 5, 8-10 and 12, Kawata discloses a transparent conductive multilayer structure which comprises a substrate overlaid with a conductive layer containing fine conductive particles ( see entire document including column 2, lines 58-63, column 3, lines 51-55, and column 5, lines 11-23). Kawata discloses that the surface resistivity may range from 630 to  $1700 \Omega/\Box$  and the visible light transmittance may range from 94.8 to 96 (columns 13 and 14, Tables 1 and 3).

Kawata does not disclose placing the structure on a substrate, but Hieda discloses that it is known to attach an electromagnetic wave shield structure to the front surface of a plasma display panel to shield electromagnetic waves and near-infrared rays generated from a plasma display panel (see entire document including column 1, lines 18-31, column 4, lines 45-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the electromagnetic wave shield of Kawata to a plasma display panel, as disclosed by Hieda, because the electromagnetic waves and near-infrared rays generated from the plasma display panel would be shielded.

Kawata does not disclose the use of an anchor layer and a hard coating layer, but Anzaki discloses that it is known to coat an electromagnetic wave shield with an adhesive layer and a hard coating layer to protect the shield from air and to prevent the glass from shattering when broken (see entire document including column 6, lines 36-45 and column 7, lines 39-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an anchoring adhesive layer and a hard coating layer to the structure of Kawata, as disclosed by Anzaki, because the layers would protect the shield from air and prevent the glass from shattering when broken.

Art Unit: 1775

Anzaki does not specifically mention using a silicone-based or UV-curable hard coating layer, but Okada discloses that it is known to coat an electromagnetic wave shield with a silicone-based or UV-curable hard coating layer (see column 1, lines 18-27 and column 18, lines 30-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a silicone-based or UV-curable hard coating layer for the hard coat layer of Anzaki, as taught by Okada, because such a layer provides the desired hard coat characteristics and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Regarding claims 2 and 9, Kawata discloses that the particles are ITO (column 5, lines 11-23).

Regarding claims 3 and 10, Kawata discloses that the substrate may be glass (column 2, lines 58-63).

Regarding claims 5 and 12, Kawata discloses that the structure has a haze ranging from 0 to 1% (column 5, lines 5-10 and columns13 and 14, Tables 1 and 3).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata in view of Hieda in view Anzaki in view of Okada as applied to claims 1-3, 5, 8-10 and 12 above, and further in view of USPN 5,886,819 to Murata.

Kawata does not mention roughening the surface of the article to increase the haze value, but Murata discloses that it is known to roughen the surface of an article to increase the haze value (column 1, lines 6-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to roughen the surface of the article of Kawata to acquire any desired haze value, because some applications desire a higher haze value.

Art Unit: 1775

7. Claims 1-3, 5, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication No. 08-199096 to Masahito et al. (hereinafter referred to as Masahito) in view of USPN 6,398,900 to Hieda in view of USPN 6,316,110 to Anzaki in view of USPN 6,379,788 to Choi.

Regarding claims 1-3, 5, 8-10 and 12, Masahito discloses a transparent conductive multi-layer structure that comprises a substrate overlaid with a conductive layer containing fine conductive particles (Patent Abstract). Masahito discloses that the structure may have a surface resistivity of 10 to  $10^2 \Omega/\Box$  (see entire document). Masahito does not disclose the visible light transmittance, but considering the substantially identical transparent conductive multi-layer structure of Masahito compared to the applicants' structure, it appears that the structure of Masahito would possess a visible light transmittance of at least 70%.

Masahito does not specifically disclose placing the structure on a substrate, but Hieda discloses that it is known to attach an electromagnetic wave shield to the front surface of a plasma display panel to shield electromagnetic waves and near-infrared rays generated from a plasma display panel (column 1, lines 18-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the electromagnetic wave shield of Masahito to a plasma display panel, as disclosed by Hieda, because the electromagnetic waves and near-infrared rays generated from the plasma display panel would be shielded.

Masahito does not specifically disclose the use of an anchor layer and a hard coating layer, but Anzaki discloses that it is known to coat an electromagnetic wave shield with an adhesive layer and a hard coating layer to protect the shield from air and to prevent the glass from shattering when broken (column 6, lines 36-45 and column 7, lines 39-46). It would have

been obvious to one having ordinary skill in the art at the time the invention was made to include an anchoring adhesive layer and a hard coat layer to the structure of Masahito, as disclosed by Anzaki, because the layers would protect the shield from air and prevent the glass from shattering when broken.

Anzaki does not specifically mention using a UV curable hard coating layer, but does disclose that the hard coating layer may operate as an antireflective layer (column 7, lines 39-47). Choi discloses that it is known to coat an electromagnetic wave shield with an antireflective hard coating layer comprising a UV-curable polymeric layer (see entire document including column 1, lines 13-23, column 3, lines 7-17, and column 5, lines 50-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a UV-curable polymeric antireflective layer for the hard coat layer of Anzaki, as taught by Choi, because such a layer provides the desired antireflective characteristics and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Regarding claims 2 and 9, Masahito discloses that the particles are ITO (Patent Abstract).

Regarding claims 3 and 10, Masahito discloses that the substrate may be glass (see entire document).

Regarding claims 5 and 12, Masahito discloses that the structure has a haze of less than 1% (see entire document).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masahito in view of Hieda in view Anzaki in view of Choi as applied to claims 1-3, 5, 8-10 and 12 above, and further in view of USPN 5,886,819 to Murata.

Masahito does not mention roughening the surface of the article to increase the haze value, but Murata discloses that it is known to roughen the surface of an article to increase the haze value (column 1, lines 6-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to roughen the surface of the article of Masahito to acquire any desired haze value, because some applications desire a higher haze value.

9. Claims 1-3, 5, 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication No. 08-199096 to Masahito in view of USPN 6,398,900 to Hieda in view of USPN 6,316,110 to Anzaki in view of USPN 6,448,492 to Okada.

Regarding claims 1-3, 5, 8-10 and 12, Masahito discloses a transparent conductive multi-layer structure that comprises a substrate overlaid with a conductive layer containing fine conductive particles (Patent Abstract). Masahito discloses that the structure may have a surface resistivity of 10 to  $10^2 \Omega$ / (see entire document). Masahito does not disclose the visible light transmittance, but considering the substantially identical transparent conductive multi-layer structure of Masahito compared to the applicants' structure, it appears that the structure of Masahito would possess a visible light transmittance of at least 70%.

Masahito does not specifically disclose placing the structure on a substrate, but Hieda discloses that it is known to attach an electromagnetic wave shield to the front surface of a plasma display panel to shield electromagnetic waves and near-infrared rays generated from a plasma display panel (column 1, lines 18-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the electromagnetic wave shield of Masahito to a plasma display panel, as disclosed by Hieda, because the electromagnetic waves and near-infrared rays generated from the plasma display panel would be shielded.

Masahito does not specifically disclose the use of an anchor layer and a hard coating layer, but Anzaki discloses that it is known to coat an electromagnetic wave shield with an adhesive layer and a hard coating layer to protect the shield from air and to prevent the glass from shattering when broken (column 6, lines 36-45 and column 7, lines 39-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an anchoring adhesive layer and a hard coat layer to the structure of Masahito, as disclosed by Anzaki, because the layers would protect the shield from air and prevent the glass from shattering when broken.

Anzaki does not specifically mention using a silicone-based or UV-curable hard coating layer, but Okada discloses that it is known to coat an electromagnetic wave shield with a silicone-based or UV-curable hard coating layer (see column 1, lines 18-27 and column 18, lines 30-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a silicone-based or UV-curable hard coating layer for the hard coat layer of Anzaki, as taught by Okada, because such a layer provides the desired hard coat characteristics and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Regarding claims 2 and 9, Masahito discloses that the particles are ITO (Patent Abstract).

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Regarding claims 5 and 12, Masahito discloses that the structure has a haze of less than 1% (see entire document).

Page 11

Application/Control Number: 09/859,512

Art Unit: 1775

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masahito in view of Hieda in view Anzaki in view of Okada as applied to claims 1-3, 5, 8-10 and 12 above, and further in view of USPN 5,886,819 to Murata.

Masahito does not mention roughening the surface of the article to increase the haze value, but Murata discloses that it is known to roughen the surface of an article to increase the haze value (column 1, lines 6-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to roughen the surface of the article of Masahito to acquire any desired haze value, because some applications desire a higher haze value.

## Response to Arguments

11. Applicant's arguments have been considered but are moot in view of the new grounds of rejection.

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (703) 306-0145. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ANDREW T. PIZIALI
PATENT EXAMINED

atn

SUPERISORY PATENT EXAMINER